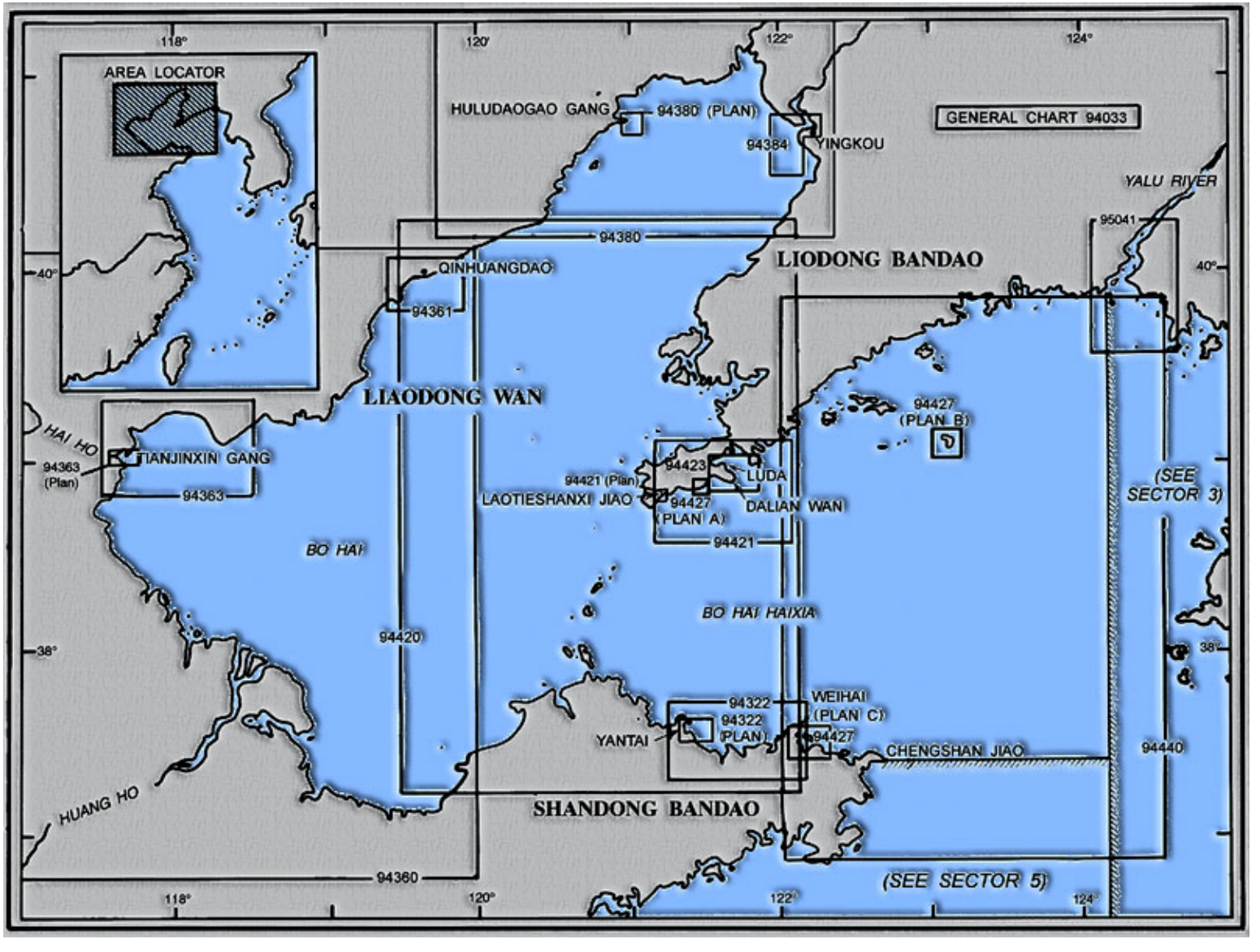
Click on "See Sector" to be hotlinked to that Sector.



Additional chart coverage may be found in CATP2, Catalog of Nautical Charts.

SECTOR **4** — CHART INFORMATION

Table of Contents

Table of Contents

SECTOR 4

CHINA—THE YALU RIVER TO SHANDONG BANDAO

Plan.—This sector describes the N coast of China between the W entrance point of the Yalu River and Chengshan Jiao, a point about 165 miles SSW. The description is W to Laotieshan Xijiao from the Yalu River. Liaoding Wan is described counterclockwise from Laotieshan Xijao to Bo Hai Strait. Bo Hai is also described counterclockwise.

General Remarks

4.1 Winds—Weather.—Winds are seasonal and largely conform to the Northeast Monsoon/Southwest Monsoon pattern typically for the waters adjacent to mainland China. The Northeast Monsoon sets in abruptly and, persisting between September and March, has winds predominantly from the N and NW and to a lesser extent, from the NE. Storms are frequent, particularly from November to March. Storms in Liaodong Wan are often from the E and NE. The Southwest Monsoon occurs between April and August and has largely light airs which, originating from the SW, tend to veer to the NW and N.

Typhoons are rare and tend to appear at infrequent intervals only during the peak expectancy months of July and August.

Fog is infrequent in Bo Hia Haixia and rare in Bo Hai and Liaodong Wan.

Ice.—Ice forms in November and continues to April. It reaches its greatest concentration in January and February. Drifting sea ice in light-concentration occurs during the winter months. Landfast ice occurs only during the coldest months and generally only in the Yalu River and in the rivers entering the NE side of Liaodong Wan. Ice conditions tend to vary considerably from year to year.

Tides—Currents.—Ocean currents in general set E out of Liaodong Wan and Bo Hai and then through Bo Hai Haix. Winter winds from then accentuate the set. Summer winds from the S tend to produce a variable set or, in the area S of the Yalu River, a counterclockwise set. Tidal currents tend to parallel the coast.

In the N approach to Bo Hai Haixia add SW of the Yalu River, the flood sets W to SW and the ebb NE at a maximum velocity of 3 knots, with the W current the stronger. Between Chengshan T'ou and Dalian Wan, the flood sets SW and the ebb NE at velocities of 1.5 to 2.5 knots. Between Dalian Wan and Lushun, the W current runs from 2 hours 30 minutes to 3 hours 30 minutes after LW until 3 hours 30 minutes to 4 hours 30 minutes after HW. The E current runs during the remainder of the tidal period.

In the S approach to Bo Hai Haixia, tidal currents are variable and subject to the influence of the wind. In general, the flood sets W and the ebb E with offshore and inshore currents frequently setting in opposite directions.

The W current begins about one hour after HW and the E current about 5 hours.

In Bo Hai and Liaodong Wan, tidal currents as well as tidal rise and fall are considerably affected by run-off water carried seaward by the many rivers in the area. The flood sets W through Bo Hai Haixia into Bo Hai then NE along each side of Liaodong Wan, the ebb sets in the opposite direction. Maximum velocity for both flood and ebb ranges from 1 to 3 knots depending on local conditions.

The several bodies of water confined by the coastline between the Yalu River and Chengshan Jiao consist of an approach waterway, Bo Hai Haixia, and an extensive inland sea to the W which, sometimes termed Pei Hai, is divided N into Liaodong Wan and S into Bo Hai. The many islets and islands of Miaodao Qundao lie in Bo Hai Haixia and encumber free access to Pei Hai.

Depths throughout the area are shoal and rarely exceed 54m.

The coast presents a general appearance of being low to hilly and only exceptionally of being mountainous. The N approaches to Bo Hai Haixia consist of low-lying coast rising inland to high hills and barren interior mountains and fronted seaward by scattered islands and drying mud flats. The S approaches are similarly low-lying and rise to interior peaks having the appearance of islands from a distance.

The islands of Miaodao Qundao are low-lying and hilly. The coast of Bo Hai is low throughout and consists largely of muddy coastal plains merging with swamps, marshlands and wide margins of drying mud flats. The coast of Liaodong Wan is, in general, hilly to the SE, flat and marshy to the NE, and low-lying to hilly to the NW.

The major deep water seaports of the area are Luda, in the N approach to Bo Hai Haixia, and Tianjin Xin Gang, on the NW side of Bo Hai. Several minor ports accommodate deep-draft vessels.

Bo Hai Haixia

4.2 The N approaches to Bo Hai Haixia comprise the S littoral of the extensive peninsula Liaodong Bandao between the Yalu River and Laotieshanxi Jiao, a point about 159 miles WSW. The coastline throughout is irregular and much indented.

Inland, coastal lowlands rise gently to high hills and the largely barren mountains forming the interior of Liaodong Bandao. Seaward, the nearshore area consists of wide margins of drying mudflats which front the coastline continuously for two-thirds of the distance from the Yalu River. The offshore area is reported to be generally shoal and contains numerous off-lying islands and islets. The major seaport of Luda (Dalian) and the minor port of Lushun are located near the SW extremity of Liaodong Bandao.

The Yalu River to Nanshan Zui

4.3 The W entrance point of the **Yalu River** (Ya-lu Chiang) (39˚55'N., 124˚20'E.) is low, flat and swampy. The coastline between the river entrance and Nanshan Zui, about 131 miles WSW, is irregular and indented by numerous inlets,

Table of Contents

bays and coves which lie separated one from another by low, hilly peninsulas, bluff promontories, and reef-fringed, rocky headlands. A well-cultivated, level to rolling coastal plain, crossed by many shallow streams, immediately backs the coastline. This continues inland to the high hills and barren mountains of the interior which lie some 15 to 25 miles inland near the Yalu River, but which reach the sea at **Chengshan Tou** (Terminal Head) (39˚09'N., 122˚09'E.), a rocky headland about 105 miles to the WSW. The nearshore area is encumbered by a coastal margin of drying mud and sand flats extending 1 to 3 miles offshore before disappearing with the rocky headlands SW of Chengshan Tou.

The offshore area is encumbered throughout by groups of large hilly islands and a scattering of lesser islands and isolated rocks.

Dalu Dao (Ta-lu Tao) (39˚45'N., 123˚44'E.), about 22 miles WSW of the entrance to the Yalu River, is a small, hilly island which, rising to a conspicuous double summit, lies near the seaward edge of the drying mud flats choking the entrance to the river Ta-yang Ho.

Ta-Ku Shan, a 335m high hill, rises steeply on the N side of a town 10 miles NW of Dalu Dao, and is very prominent. There are two large shrines, and a dense growth of trees in a ravine, on the seaward side of the hill.

Anchorage can be obtained 3 miles SSE of the E part of Dalu Dao, in a depth of 8.6m. Smaller vessels can anchor 1.3 miles S of the same point, sheltered from NW winds, in depths of 5.5 to 6.7m, mud. Vessels handle cargo from lighters able to enter Ta-yang Ho at HW and proceed to berthing facilities for Ta-Ku-shan, a community lying within the W entrance point of the river.

4.4 **Haiyang Dao** (39˚03'N., 123˚12'E.), about 69 miles SW of the entrance to the Yalu River, is a large, mountainous, steep-sided island which, rising steep-to from surrounding depths greater than 36m, constitutes the farthest seaward danger in the N approaches to Bo Hai Haixia.

Small vessels, seeking shelter from all but W winds and their accompanying swell, anchor, in 6.4 to 7.3m within a land-locked inlet indenting the W side of Haiyang Dao.

Local magnetic anomalies have been reported in the vicinity of Haiyang Dao.

Wai-ch'ang-shan Shuidao (Blonde Group) (39˚03'N., 122˚47'E.), about 15 miles W of Haiyang Dao, is a group of hilly steep-sided islets of which Zhangzi Dao is the largest and westernmost.

Damoding, with the appearance of a small vessel under sail, is an isolated, steep-to rock 11m high standing about 4.5 miles S of the S extremity of Zhangzidao.

Vessels, seeking shelter from S through SW winds, anchor in 12.8 to 20.1m, sand and mud, at the entrance to a small bay on the NE side of Zhangzidao.

There is also anchorage in the bay on the W side of the island sheltered from E winds, in similar depths.

Changshan Qundao (Elliot Group) (39˚15'N., 122˚35'E.) is an extensive, hilly island group which, separated from the mainland at Chengshan Tou by a largely clear channel about 7 miles wide, consists of several larger islands, a number of lesser islands, and a scattered multitude of navigational dangers. Dachangshan Dao is the largest and northernmost island.

Vessels anchor in 9.1 to 21.9m, mud, sand and shell, in a position between a peninsula extending S from Dachangshan Dao and Sai-li Tao (Suili Tao), a hilly islet about 2 miles farther to the S. The anchorage is best approached from the S through Ha-hsien Tao (Hasien Strait), the clear deepwater channel W of Sai-li Tao.

4.5 **Dalian Wan** (38˚57'N., 121˚45'E.) is a commodious deep-water bay having an irregular shoreline everywhere backed by high rolling hills except for populated, well-cultivated lowlands at the head of several arms and narrow inlets on the NW side of the bay. The entrance is encumbered by two hilly steep-sided islets. Dasanshan Dao (Ta-shan Tao), the larger islet, lies with its S extremity about 5.5 miles S of **Shanxi Tou** (Shan-hsi T'ou) (38˚59'N., 121˚49'E.), the precipitous, reef-fringed E entrance point of the bay. A light, with a radiobeacon, is situated on the S end of Dashanshan Dao.

The main navigable entrance channel lies between Dash-anshan Dao and Huangbai Zui, marked by a light, the steep-to, precipitous W entrance point of the bay. Berthing facilities for Luda lie along the shore WNW of Huangbai Zui.

Vessels of all classes can find shelter in Dalian Wan. Small vessels enter Dagushan Wan, a sheltered cove close N of Shanxi Tou, and, steering for a tomb at the head of the cove on a heading of 080˚, come to anchor, in 10.1m, when Shanxi Tou bears 180˚.

Dayaowan, a new port, has been constructed at Dalian. The port has ten berths, with two 35,000 dwt container berths and two 25,000 dwt container berths.

Yuan Dao (Yuan Tao) (38˚40'N., 122˚10'E.), about 19.5 miles SE of Dasanshan Dao, is a small steep-to isle which, reported radar conspicuous at a distance of 17 miles, constitutes the farthest seaward danger in the approaches to Dalian Wan.

The island, which is marked by a light and radiobeacon, has a rounded 60m high summit and is a yellow earthen color.

Luda (38˚57'N., 121˚40'E.)

World Port Index No. 60250

4.6 Luda (Ta-lien Chiang) (Dalian Gang) is a major seaport contiguous with Dalian Wan. The principal alongside berthing facilities lie on the SW side of the bay and comprise several districts in which dredged basins, reclaimed land and breakwaters improve on natural features. Fou-t'ou Ch'u, the principal commercial district, lies sheltered behind break-waters off the main part of Luda. Vessels up to 30,000 tons can be accommodated.

Winds—Weather.—Winds are from the N and NW during the year; in summer and spring, S and SE winds often occur.

Fog begins in the spring, usually occurring in the morning, and continues until September. July is the month of the most frequent occurrence of fog.

Ice.—The ice season normally lasts from the early part of January to the beginning of March. In very cold weather, ice floes may consolidate into a continuous sheet of ice over the whole of the outer harbor, but icebreakers have no difficulty in keeping the berthing area open.

Tides—Currents.—The tides in the harbor are usually semi-diurnal with an average range of 2.3m at neaps and 2.9m at springs.

Tidal currents in Dasanshan Shuidao set SW on the flood tide and NE on the ebb tide, with rates up to 2.5 knots.

Depths—Limitations.—Siergou Qu (38˚55'N., 121˚41'E.) is the work area between 1.25 and 2.75 miles WNW of Huangbai Zui. Pier No. 2 lies near the E limit of the area. Pier No. 1, lying 0.35 mile W, is reserved for vessels loading and unloading dangerous goods and bean oil. The piers in this work area have reported depths alongside of 7.6 to 7.9m and can accommodate four 10,000 ton vessels.

Dagang Qu (38˚56.5'N., 121˚39.0'E.) is the work area immediately W of Siergou Qu and is the main berthing area. It is protected by breakwaters giving vessels access from the E. The N and W entrances, closed by ice booms from early December to the middle of March, are used by small craft.

Dagang Piers extend from the S shore of the area in succession from E to W and are separated from one another at their root by Pier A, Pier B, and Pier C. There are depths reported alongside the piers of 7.6 to 10.7m, which can accommodate eighteen 10,000 ton vessels. A container terminal for vessels up to 16,000 dwt and a draft of 9.1m is located at Pier C; the terminal has 270m of berthing space.

Xianglujiao Qu is the work area immediately W of Dagang Qu. A channel, in which there is a depth of 7m leads through Xianglujiao Qu to two large piers on its W side. The N pier is used mainly for timber products. The S pier is used for general cargo operations.

To the N of the piers lies a small shipbuilding yard with layby berths. Xianglujiao has two piers with eight berths having depths between 7 to 8m alongside, for ships up to 10,000 dwt.

Ganjingzi Qu (38˚57.4'N., 121˚38.0'E.) is the work area NW of Dagang Qu. Ganjingzi Oil Pier is situated on the W side of the breakwater head, and it extends from the N side of the work area. The oil pier has two berths, one for vessels up to 100,000 dwt and the other up to 50,000 dwt tankers. The Coal Pier lies parallel to the oil pier 0.15 mile W of it, and there are two small piers within 0.5 mile of the main piers. Reclamation work was in progress in the vicinity. There are also two special purpose coal piers for vessels up to 10,000 dwt.

A Traffic Separation Scheme has been established in the entrance to Dalian Wan; this scheme has not been adopted by the IMO. A separation zone 0.3 mile wide extends 3.5 miles N from a position 38˚50.0'N, 121˚46.2'E, to a semicircular precautionary area. Lighted Buoy HO is moored at the N end of the separation zone. A narrow zone separating traffic lanes, 0.15 mile wide, extends N from the precautionary area for 2 miles. Lighted Buoy H1 is moored in the separation zone 0.8 mile N of the precautionary area. Lighted Buoy H2 is moored about 0.3 mile N of the N end of this separation zone.

Vessels of less than 20m length should use the inshore traffic zone. Vessels should report to Dalian Harbor Administration, port superintendent on entering Dasanshan Shuidao.

Vessels entering harbor and proceeding to Ganjingzi or Xaianglujiao areas should navigate in the appropriate traffic lane and turn west at Lighted Buoy H2; vessels leaving these areas should reverse the process.

Vessels proceeding directly to Siergou or Dagang area or to No.1 Quarantine Anchorage, should show the day signal, which is First Substitute above flag W. The night signal to be shown is three all round lights, white, red, red, vertically disposed.

Pilotage.—Pilotage is compulsory for foreign vessels entering and leaving the port. Pilots embark at the quarantine anchorages, as follows:

1. Tankers—3 to 5 miles ESE of the Oil Pier light.
2. Other vessels—1 to 4 miles E of Luda East Harbor entrance.

Pilotage is undertaken 24 hours. The vessel's ETA should be sent 24 hours in advance, or on departure, from the last port of call. Subsequently any changes or delays in the ETA should be reported. The port has eight tugs. Some are dispatched as pilot boats to bring information and a boarding party to vessels at the cargo vessel anchorage.

Vessels should maintain a continuous listening watch on VHF channel 6.

Outbound vessels should report when passing Lighted Buoy HO.

Regulations.—Vessels are only permitted to enter Dalian Wan through Dasanshan Shuidao, the channel between Dasanshan Dao and Huangbai Zui.

A Vessel Traffic Service has been established in the port. Vessels report when passing the reporting points, as follows:

1. Lighted Buoy HO.
2. Dagong Hangdao Lighted Buoy No. 2.
3. Ganjingzhi Hangdao Lighted Buoy H2.
4. Ganjingzhi Hangdao Lighted Buoy No. 7.

Signals.—A signal station stands at the NW corner of Pier No. 2. It was reported that the following night quarantine signals were in use:

Signal	Meaning
Red light over white light.	Normal request for pratique.
Three vertical red lights.	Quarantine inspection requested.
Red, red, white, red lights vertically disposed.	Infected vessel.

The following traffic signals are displayed:

Signal	Meaning
Ball over numeral pennant(s).	Vessel arriving for indicated berth.
Cone, point down, over numeral pennant(s).	Vessel leaving indicated berth.
International Code Flag N, with numeral pennant(s) above and below.	Vessel moving from above indicated berth to below indicated berth.

Anchorage.—Vessels can anchor, in 7.4 to 11m, mud, throughout Ta-lien Chiang. No. 1 Quarantine Anchorage (Cargo Vessels) is the area, indicated on the chart, lying between 3

Table of Contents

miles NE and 3 miles NW of Huangbai Zui. It has depths of 8 to 12m, soft mud. The holding ground is not good, vessels must be aware of winds between SSE and ENE, which cause a long swell. Ships with a draft of more than 8m should not anchor W of the 10m depth line.

Small vessels anchor, in 7.4m close off the N breakwater sheltering Fou-t'ou Ch'u. Vessels are advised to use caution when using this anchorage; unmarked and unlit floats associated with seaweed cultivation may be encountered.

No. 2 Quarantine Anchorage, indicated on the chart, is centered in a position about 4.5 miles NNE of Huangbai Zui. It has depths of 9 to 12m and is sheltered from N to NE winds.

The Quarantine Anchorage (Oil Tankers) lies immediately W of No. 2 Quarantine Anchorage. It has depths of 8 to 9m and is also sheltered from N to NE winds.

Ships requesting anchorage should contact Dalian Xingang Signal Station 1 hour prior to entering the port and anchor as directed.

Daliangang Xingang Oil Terminal (38˚59'N., 121˚54'E.) consists of a concrete platform connected to concrete dolphins flanking it on each side. The whole structure is 420m long.

No. 1 berth, on the outside, is 360m long with an alongside depth of 17m and can accommodate one vessel up to 100,000 tons with a draft of 15m. Vessels berth port side to, letting go the starboard anchor about 30m off.

No. 2 berth, on the inside, is 230m long with an alongside depth of 14m. It can accommodate one vessel up to 50,000 tons with a maximum draft of 12m.

Vessels intending to anchor here should notify Dalian Xingang Signal Station via VHF 1 hour in advance. Anchor berths have been established, as follows:

Berth	Position
1	38 57.8'N,121 56.5'E.
2	38 57.7'N,121 57.2'E.
3	38 57.2'N,121 56.7'E.
4	38 57.0'N,121 55.9'E.
5	38 56.6'N,121 55.4'E.
6	38 56.5'N,121 56.2'E.
7	38 56.0'N,121 55.2'E.

Nanshan Zui to Laotieshandong Jiao

4.7 **Nanshan Zui** (Nan-shan Tsui) (38˚52'N., 121˚41'E.) is a low, steep-to point lying at the SE extremity of the hilly peninsula sheltering the W side of Dalian Wan. Foul ground, on which there is an islet 14m high and a rock 10m high, extends 0.25 mile SW of the point. The coastline between Nanshan Zui and Laotieshandong Jiao, about 28 miles WSW, forms the S littoral of Kuan-tung Pan-tao (Kwantung Peninsula), the hilly SW extension of Liodong Bandao. The coast is steep-to and largely clear throughout, except for several steep-sided islets and off-lying rocks lying scattered to the E. Kuan-tung Pan-tao is reported radar conspicuous at a distance of 25 miles.

Yu Yan (Gu Gan) (38˚35'N., 121˚36'E.), marked by a light and racon, is a low, steep-to islet which appearing as a group of low rocks from the S, lies about 17 miles SSW of Nanshan Zui and constitutes the farthest seaward danger in the approaches to Kuan-tung Pan-tao. A rocky shoal, with a depth of 5m, extends 1 mile NE of Yu Yan. The islet has been reported to lie about 0.5 mile SW of its charted position.

Lushun (Lu-shun) (38˚47'N., 121˚15'E.) (World Port Index No. 60240) is a minor port having an inner harbor consisting of a small, landlocked bay, well-sheltered throughout by low-lying hills, and an outer harbor consisting of an open roadstead. The inner harbor, entered through a narrow deepwater channel, is divided into two sections. Hsi Kang (Nishi Ko), the W section, is largely choked by drying mud flats. Tung Chiang, the E section, is an artificial basin which, quayed on all sides, is normally used by naval vessels. The basin has general depths of 7.3 to 8.8m which can be reduced by as much as 1.5m during continuous strong N winds. Nine vessels can be moored along the walls of the basin, with depths of 6.4 to 8.8m. Ice occurs from January to March.

Lu-shun (Ryojun) (Port Arthur) is a populous community lying on both sides of a small river entering the N side of Hsi Chiang.

Vessels can obtain anchorage 0.5 to 0.75 mile S of the W entrance point to Lushan Gang, in a depth of 10m; however it is exposed and onshore winds can create a heavy sea. Pilotage is compulsory. Vessels, intending to transit the entrance channel, are cautioned that natural features often screen vessel movement within the inner and outer harbors and, in consequence, are advised that traffic signals controlling vessel movement are displayed from the signal station atop Lao-hu-wei Shan, a barren, rounded hillock backing the W entrance point of the channel.

Liaodong Wan—Laotieshanxi Jiao to Ta-ch'ing Ho

4.8 **Liaodong Wan** (Liao-tung Wan) (40˚30'N., 121˚30'E.), the smaller constituent part of the extensive inland sea opening out to the W and N of Bo Hai Haixia, is a large body of water lying, by definition, to the N of a line between Laotieshanxi Jiao and the entrance to Ta-ch'ing Ho. Depths throughout are largely shoal and rarely exceed 29.2m.

Liaodong Bandao Bay is entered between Xizhong Dao and **Xiaolongshan Dao Light** (38˚58'N., 120˚59'E.) and is continued to the E by the inlet Pulantien Chiang.

Tides—Currents.—The current sets fair through the channel. Off Ch'ang Tao, the flood begins about 1 hour after LW and continues about 7 hours. The ebb begins about 2 hours after HW. Flood and ebb currents each reach maximum velocities of l.25 to 2.75 knots, occurring 3 hours 30 minutes and 4 hours after HW and LW water, respectively.

Anchorage.—Vessels, seeking shelter from all but W wind, anchor as convenient throughout the bay. Smaller vessels anchor in the lee of the various islands. Vessels enter Liaodong Bandao and anchor, in 6.4 to 9.2m, close NW of Cb'ang Tao and, in 5.5 to 11.m, close W of Po-chi Tao. Vessels enter Liaodong Bandao channel with a draft of 5.5m at HW and 3.7m at LW. Gale force winds can cause a water level fluctuation of as much as 0.6m.

In Fuzhou Wan vessels anchor, in 8.2m, mud bottom. Small vessels anchor farther to the E. Vessels seeking shelter from all but W winds, anchor as convenient in less than 14.6m, good holding ground of sand and clay S of Changxing Dao in Hulushan Wan.

Laotieshanxi Jiao (Lao-t'ieh-shan-hsi Chiao) (38˚44'N., 121˚08'E.) is a steep-to rounded point lying at the SW extremity of Kuan-tung Pan-tao, the hilly SW extension of the larger peninsula Liodong Bandao. A light is situated on the SW slope of Laotieshanzi Jiao. The coastline between the point and the entrance to the river Ta-ch'ing Ho, about 110 miles WNW, recedes in general to the NE and delimits a coast diverse in character. The SE coast is largely low-lying and consists of a coastal plain which, interrupted by numerous bold headlands, rises to the rounded foothills on the foreslopes of the mountain range within the interior of Liaodong Bandao. There are numerous shoals in the offshore area. The NE coast is the low, swampy seaward limit of a vast level to undulating plain which, traversed by several large, silt-laden streams, extends better than one hundred miles inland. The offshore area is shoal well seaward and has drying coastal mud flats extending as far as 12 miles offshore. The NW coast is predominantly low and consists of a well-cultivated coastal plain rising to hills some 5 to 11 miles inland. The offshore area is shoal and has, in its NE part, wide margins of drying coastal mud flats.

4.9 Yingkou (40˚41'N., 122˚14'E.) (World Port Index No. 60220), about 128 miles NNE of of Laotieshanxi Jiao, is a port lying close inside the entrance to Liao Ho (Ryo Ga), a sluggish river which, originating with the confluence of two rivers some 295 miles to the NNE, traverses the lowlands at the head of Liaodong Wan before reaching the sea through wide margins of drying mud flats. A bar of hard sand obstructs the river entrance about 13 miles downstream from the berthing facilities at Yingkou. Ice closes the river from about mid-November to mid-April.

River water levels fluctuate seasonally, being highest in the rainy season (July and August) and the period of melting snow (March and April) and then lowest in autumn. Water levels over the bar similarly fluctuate and, during the greater part of the navigation season (i.e. June to November), average 5.5m at HWS and 4.9m at HWN.

Winds from the S raise the water level and from the N decrease it. Depths within the river and over the bar are affected by silting. In general, vessels able to cross the bar can proceed to Yingkou, provided it does not exceed a length of 143m during the months of June to September or exceed a length of 130m during April, May, and October.

Tides—Currents.—Seaward of Liao Ho bar, the flood sets first NNW, then N and NNE. At the bar, the flood sets N and the ebb S with a velocity of 2 to 4 knots. The flood begins when the water level over the bar increases 0.3 to 0.6m and sets upstream 4 to 5 hours. The ebb begins when the water level decreases a similar amount and sets seaward 7 to 8 hours.

Depths—Limitations.—Four wharves with five general cargo berths are available. Three berths are capable of accommodating 3,000 ton class vessels and two berths for small vessels of the 500 ton class. Three new berths have recently been completed, two for 3,000 ton class vessels and one for 1,000 ton. Larger vessels can be handled at the outer anchorages.

4.10 Bayuquan (40˚18'N., 122˚05'E.) (World Port Index No. 60230), a new port area, is under construction close SE of Yingkou on the E side of Liaodong Bay. Six berths for 10,000 ton class vessels will be constructed to handle cargoes of timber, various ores and steel.

Pilotage.—Pilotage is compulsory. Pilots board vessels in the Quarantine Anchorage, in the vicinity of **Yingkou Light Vessel** (40˚31'N., 121˚59'E.).

A pilot and quarantine anchorage, with a least depth of 11m, mud and sand bottom, is located in Bayuquan harbor.

Anchorage.—Anchorage can be obtained as convenient in the vicinity of position 40˚31'N, 122˚00'E, noting that the depths decrease gradually eastward.

The anchorage off Yingkou can accommodate vessels up to about 4,500 tons. Vessels moor in two lines parallel to the bank. The bottom is soft mud and the holding ground is not very good. The preferred holding ground is below the Customs House.

The general anchorage area lies in that part of the river between positions 1 mile below and 1 mile above the Customs House (40˚40.7'N., 122˚15.5'E.).

The explosives and quarantine anchorage is situated 1 mile below the general anchorage. Vessels carrying mineral oil anchor as directed by the Harbor Master.

Directions.—The proximity of shoal water on each side of the approach, and the absence of landmarks, make it advisable to obtain a good landfall to the SSW before making the approach.

4.11 Huludao Gang (Hu-lu-tao Chiang) (40˚42'N., 120˚59'E.) (World Port Index No. 60210), about 120 miles N of Laotieshanxi Jiao, is a small, man-made seaport, enclosed by a breakwater, lying on the S side of a hilly finger of land extending several miles seaward and terminating in Huludaogao Jiao (Hu-lu-tao-kao Chiao), a precipitous, rock-fringed promontory. A light is situated on Huludaogao Jiao.

Winds from the S and SW are common during spring and summer, E winds less so. Fresh winds from the E send a heavy swell into the harbor and frequently render alongside berths untenable. The harbor freezes over from December to March.

Berths are available alongside the quay wall at the W end of the harbor, or at the two piers extending E from the wall. A total berthing length of 1,707m is available, with alongside depths of 5.7 to 9.1m. A tanker berth, 101m long, with an alongside depth of 8.8m, lies on the N side of the breakwater. Pilotage is compulsory.

4.12 Jinzhou (40˚45'N., 121˚06'E.) (World Port Index No. 60215) is a new port with three 10,000 dwt class berths for general cargo ships and two 5,000 dwt class berths for tankers. As many as 30 new berths are now being built.

Depths—Limitations.—The entrance channel is reported to have a least depth of 11m, is 85m wide, and approximately 4 miles long. The channel is marked by range lights and buoys.

Pilotage.—Pilots board at the quarantine anchorage in the vicinity of 40˚42.4'N, 121˚06.5'E. Arrivals and departures are during daylight hours at HW.

Table of Contents

Anchorage.—The No. 2 Anchorage is centered on position 40˚33.0'E, 121˚26.5'E, and has a 1 mile radius. Number 3 Anchorage, also 1 mile in radius, is centered in position 40˚15'N, 121˚22'E.

4.13 Qinhuangdao (Ch'in-huang-tao) (39˚56'N., 119˚37'E.) (World Port Index No. 60200) is a principal coal exporting port which lies on a generally featureless coastal plain about 100 miles NW of Laotieshanxi Jiao.

Ice.—Ice conditions occur from January to mid-February. During this time, NE winds may bring a large amount of drift ice from the head of Liaodong Wan.

Tides—Currents.—The range of tides is 1.1 to 1.5m at springs and 0.7 to 1.1m at neaps. South of the harbor, the flood tide sets W and the ebb tide E, at a maximum velocity of 1 knot.

Depths—Limitations.—Big Pier, or outer breakwater, curves SW from a position 0.25 mile SW of **Nanshan Tou** (39˚55'N., 119˚37'E.), a bluff on the E side of the harbor. The inner side provides berthing facilities. Small Pier lies 0.15 mile NW of Big Pier.

The Original Fairway, which leads to these piers, starts 1.75 miles seaward of Big Pier, is 100m wide, 9.4 to 10.4m deep, and is marked by range lights, in line bearing 352.5˚.

New Pier, an L-shaped wharf, lies 0.3 mile NW of the head of Big Pier. Range lights, bearing 310˚, lead to the New Pier by way of the West Fairway. There are 13 berths for container and cargo vessels of 35,000 dwt.

Alongside depths in the main harbor area are reported to be from 4.9 to 9.7m. The bottom is very soft mud.

The East Fairway, 2 miles long and dredged to 10.7m, is marked by range lights bearing 011˚. This channel leads in a NNE direction to the Oil Harbor.

The Approach Fairway has depths of 12 to 13.5m and is marked by range lights bearing 340˚.

The Oil Jetty, extending 1 mile SSE from the shore 2 miles ENE of Nanshan Tou, forms the E side of Oil Harbor. Two piers with berths for tankers extend WSW and SSW from Oil Jetty and there is a berth on the W side of the jetty at its S end. A light is situated from the head of each pier.

The port has a total of 11 coal berths, and 100,000 dwt vessels can be accommodated. Tankers up to 50,000 dwt can be accommodated.

Aspect.—Jinshan Zui, a low point about 7 miles SW, contains many large prominent buildings, is surrounded by wooded hills, and is marked by a light. **Damuzhi Shan** (40˚07'N., 119˚26'E.), 15 miles NNW of the harbor, is 1,350m high and is a good mark from the SE. If the peak is obscured, the bluffs at Jinshan Zui will be the first objects to be identified.

Ch'ang Ch'eng ("Great Wall of China") reaches the sea at the village Ninghai, about 9.5 miles ENE, and often shows up well before disappearing from view behind a coastal ridge.

Pilotage.—Pilotage is compulsory. Pilots board in the three anchorage areas and are available 24 hours.

Anchorage.—West Anchorage, East Anchorage, and Oil Tanker Anchorage lie just outside the harbor limit S and SE of Nanshan Tou. They are best seen on the chart.

Caution.—The tidal current on the falling tide appears to sweep around Qinhuangdao Wan and set across the entrance between New Pier and Big Pier. Care must be taken not to be swept onto the latter.

Bo Hai—Hai Ho Above Tianjin Xin Gang

4.14 Dagu Tanggu (38˚58'N., 117˚40'E.) (World Port Index No. 60180) is a port complex extending about 8 miles upstream from the entrance to Hai Ho. It joins the berthing facilities of the communities Dagu and Tanggu and includes Dagu Reach, Windy Reach, Tanggu Reach (Tanggu Chih-tuan), Powder Reach (P'ou-ta Chih-tuan), Sinho Reach (Hsin-ho Chih-tuan) and part of Fa-men Chih-tuan (Farm Reach). Dagu, on the right bank of the river at Windy Reach, is of little commercial importance.

Tanggu, on the left bank upstream from Tanggu Reach, is a rail terminal with connections to Tianjin and Tianjin Xin Gang.

There are numerous wharves at Dagu and Tanggu, some of which have a berthing length of over 305m. This area includes wharves equipped for handling oil, coal, and salt. Depths alongside depend on the slices at the dam across the river mouth but are estimated to be from 4 to 5.2m. There is accommodation at Tanggu for three 5,000 ton vessels and two 3,000 ton vessels.

Vessels, wishing to turn around, proceed to the area of the customhouse in Tang-ku Reach and display, when intending to swing above the customhouse, a black ball over the code pennant from the International Code of Signals and, when intending to swing below the customhouse, a black ball under the code pennant.

Tianjin Xin Gang (39˚00'N., 117˚42'E.)

World Port Index No. 60180

4.15 Tianjin Xin Gang (T'ien-ching-hsin Chiang), lying close N of the dam closing the entrance to the river Hai Ho, is the deep-water harbor for Tianjin. It is one of the leading ports in North China and can handle container ships up to 30,000 tons.

Winds—Weather.—The winds in spring and autumn are usually from the SW. In the summer, SE winds prevail while in the winter, winds from the NW predominate. Wind velocities are stronger in April and May and subside from August to September. Fog sometimes hinders port operations in January.

Ice.—Ice conditions occur from early December to March, but usually does not interfere with port operations.

Tides—Currents.—The tidal range is about 3.5m at springs and 2m at neaps.

Tidal currents in the approach channel set in the direction of the channel when the mud flats in the approach are uncovered at an average rate of 0.75 knot.

When the flats are covered they set across the channel, approximately parallel to the coast, setting N during the flood tide and S during the ebb tide, with a maximum rate of 2 knots at springs and 1 knot at neaps.

Depths—Limitations.—The entrance channel is about 150m wide with a dredged depth of 10.6m. Entered about 2 miles E of Dagu Light (38˚ 56.3’N, 117˚ 58.8E). The channel is marked by lighted beacon and lighted bouys at regular intervals. Breakwaters, the outer parts of which are visible only

at LW, flank each side of the channel. Their position can best be seen on the chart. There are depths less than 10m in the channel best seen on the chart.

There are 35 operational berths, with a total berthing length of almost 6,000m with depths alongside of 7.1 to 12.2m. There is a container terminal, Pier No. 3, with a usable pier length of 361m and charted depths of 10.5 to 11.6m alongside.

Aspect.—The land in the vicinity of Tianjin Xin Gang is low, flat, and not readily identifiable.

The harbor consists of an artificial basin dredged out of the extensive margin of drying mud flats fronting the NW shore of Po Hai and the entrance to Hai Ho. The harbor is sheltered to the N by a mole extending about 2.8 miles seaward. A partially-submerged breakwater continues about 2 miles farther seaward. It is protected to the S by a short training wall and by a partially-submerged breakwater which lies about 6 miles ESE. Drying mud flats fill the area between the training wall and the breakwater.

Pilotage.—Pilotage is compulsory. The master should advise the vessel's ETA 72 hours, 48 hours, and 24 hours prior to arriving at the pilot station. The pilot boards in the pilotage-quarantine anchorage. Pilots are available day and night.

Regulations.—A Vessel Traffic Service (VTS) has been established in Bo Hai and Tianjin Xin Gang. The VTS area is covered by an area within an arc, known as the Gate Line, centered on an arc extending a radius of 20 miles from position 38 58.52'N, 117 47.20'E.

Vessels within the VTS area are divided into two groups, as follows:

1. Larger vessels—all foreign vessels, Chinese vessels 60m loa and greater, towing vessels 50m loa and greater, towing vessels with a beam of 15m and over, and vessels with special requirements.
2. Smaller vessels—Chinese vessels less than 60m loa, towing vessels less than 50m loa, and towing vessels with a beam of less than 15m.

Upon arrival at the Gate Line, vessels must report to the VTS Center, call sign Tianjin VTS Center, on VHF channel 9, stating the following information:

1. Vessel name.
2. Nationality.
3. Call sign.
4. Draft.

Vessels should also report to the VTS Center on VHF channel 9, as follows:

1. Before entering the port.
2. Before leaving Ship Lock.
3. After berthing.
4. Before preparing to leave the berth.
5. After passing through Haimen Bridge.
6. After anchoring.
7. Before turning around in Xingang Fairway.

Xingang Fairway is available for two-way traffic for vessels up to 10,000 grt. Limitations may be imposed for larger vessels, in dangerous conditions, or during bad weather.

All vessels within the VTS area should maintain a continuous listening watch on VHF channel 9.

Anchorage.—Two anchorage areas, known as Dagukou North and Dagukou South, with average depths of 9 to 16m, mud bottom, poor holding, are located off **Dagukou Maodi** (38˚55'N., 118˚01'E.). These anchorages are divided by the entrance channel leading to Tianjin Xin Gang. The pilotage-quarantine anchorage, is centered 2.5 miles ESE of Dagu Light and is best seen on the chart. The light is reported difficult to see. A racon transmits from the light, and a fog signal is sounded.

Good holding ground was reported 3.1 miles bearing 098˚ from the light, but otherwise the holding ground is very poor, and it is advisable to allow at least half a mile clearance of all anchored vessels. Winds are liable to be strong all year round and dragging anchor is quite common. With strong offshore winds, depths at the inshore end of the anchorage may be considerably less than charted; deep draft vessels should not anchor W of Dagu light tower. When the anchorage ices over, vessels may drag from 5 to 10 miles in a day owing to the movement of the ice with the tidal streams. There are numerous submerged wrecks in the anchorage area and these can be a hazard for vessels dragging anchor.

Anchorage within a 1 mile radius of Dagu Light is prohibited.

Directions.—Vessels intending to enter Tianjin Xin Gang arrive at the seaward entrance of the dredged entrance channel about 2 hours before HW. The best time for crossing the bar is about 1 hour 30 minutes before HW. Crossing the bar itself should always be considered a hazard because of the continuous silting, in spite of the constant dredging, and the poor rudder control experienced.

Buoys marking the channel are in accordance with IALA Maritime Buoyage System (Region A).

Caution.—Several wells marked by lights, best seen on the chart, lie SSE of the charted anchorage area. There is a restricted area surrounding these wells.

4.16 Caofeidian (38˚56'N., 118˚32'E.), about 39 miles E of the entrance to Hai Ho, is a low weed-covered sand dune which is liable to shift or wash away. Fishing stakes extend 1.5 miles WNW. It is marked by a light on its SW extremity. A racon is transmitted.

Caofeidian Tan is an extensive area of drying banks, with several small islets, that lies between Caofeidian and the mainland about 14 miles N. It should be approached with caution as it is fringed with irregular steep-to shoal patches and numerous fishing nets.

Tides—Currents.—Tidal currents along the S side of Caofeidian Tan set WNW, at a maximum rate of 4.5 knots, on the flood tide, and SE, at a maximum rate of 3 knots, on the ebb tide. On the W side of the banks the tidal current sets N on the flood tide and at a lesser strength.

Anchorage.—Anchorage that is sheltered from NE gales, can be obtained off the SW of Caofeidian Tan.

Hai Ho to Teng-Chou T'ou

4.17 Hai Ho (Pai Ho) (38˚59'N., 117˚43'E.), the small, commercially important river emptying into the NW port of Bo Hai, has its origin within the metropolis T'ien-ching where, at a distance of about 27 miles inland, it emerges from the confluence of the waterways Pei-yun Ho and Tzu-ya Ho and where, at a distance of about 1 mile downstream, it receives the major tributary Wei Ho.

Yun Ho (Grand Canal), the world's longest artificial waterway, proceeds N from **Hangzhou** (30˚15'N., 120˚10'E.), enters Wei Ho about midway along its length, continues to Hai Ho and Pei-yun Ho where it reaches, at a distance of about 86 miles upstream from T'ien-ching, **Pei-ching** (Beijing) (Peking) (39˚56'N., 116˚24'E.), the administrative capital of mainland China.

The entrance to Hai Ho is closed by a dam. Ocean vessels enter the river through a lock 180m long and 21m wide located N of the dam. Vessels with a draft of 5.6m have passed through. Smaller vessels enter through a lock W of the dam. A third lock is located at the juncture with Wei Ho. Navigation by ocean-going vessels is impracticable on the several rivers and numerous tributaries feeding Hai Ho.

Caution.—Several wellheads and obstructions, some unmarked, are located in SW Bo Hai, E and ENE of the entrance to Huang Ho. Vessels are prohibited from approaching within 500m of the drilling rigs.

4.18 Longkou Gang (37˚38'N., 120˚17'E.) (World Port Index No. 60170), about 25 miles SW of Teng-chou T'ou, lies close within the bay Lung-k'ou Wan and serves as one of the principal seaports for the inland city **Huang Xian** (37˚38'N., 120˚30'E.). It consists of an inner and outer harbor lying S of a low sandy isthmus which, extending about 5 miles E, terminates in a hilly promontory of which Qimu Jiao (Ch'i-mu Chiao) is the reef-fringed, steep-sided rocky seaward extremity.

A partly drying sandbank fringes the S side of Qimu Jiao, and from it a sandspit extends SE across the bay. A dredged channel, nearly 3.5 miles long, gives access to the port area.

Tidal currents generally set SE on the flood tide and W on the ebb tide. The maximum rate does not exceed 1 knot.

The port of **Longkou** (37˚39'N., 120˚20'E.), which is open to foreign shipping, handles cargoes of coal, salt, sand and general goods. Vessels of 10,000 dwt can be accommodated.

Two piers extend W from the shore. Berths 1 and 2 are used by tugs. Berths 3 and 4 have depths of 6.8m alongside and are equipped to handle sand and coal, respectively. Berths 5 and 6, on the N side of the S pier, also have depths alongside of 6.8m and handle general cargo ships and passenger ships, respectively.

Berth 7 through Berth 10 are on the S side of the N pier. Berth 7 and Berth 8 have depths of 4.5m alongside. Berth 9 and Berth 10, equipped to handle salt, have depths of 7.5m alongside. A chimney, 31m high, at the N end of town, is a good mark. Two beacons stand on the marshy ground about 2.5 miles and 3.5 miles E of the extremity of Qimu Jiao.

Pilotage.—Pilotage is available 24 hours; the pilot boards in the quarantine anchorage. Send the vessels's ETA to the agent 72 hours, 48 hours, and 24 hours prior to arrival.

Anchorage.—The quarantine anchorage is bounded by latitudes 37˚37.0'N and 37˚37.8'N, and by longitudes 120˚12.5'E and 120˚13.9'E. The bottom, sand and mud, provides good holding ground.

Channel.—The approach channel from No. 1 Lighted Buoy (37˚38.5'N., 120˚16.4'E.) is marked by buoys in accordance with IALA Maritime Buoyage System (Region A).

It is planned to dredge the approach channel to allow vessels of 10,000 dwt to use the port. The S pier will be extended to provide two additional berths and a coal terminal for vessels of 10,000 dwt will be constructed at the N end of the port.

4.19 Luan-chia-k'ou (Davenport Point) (37˚47'N., 120˚37'E.), about 7 miles SW of Teng-chou T'ou, is the offshore extremity of a low, rocky headland which, fronted by shoal water, projects seaward to form a small bay to the E. A village lies at the head of the bay.

Small vessels anchor, in 7.3m, stiff mud, with Luan-chia-k'ou Chiao bearing 270˚ and with a white tower standing within the village in range 191˚, with an artificial mound atop a low hill close to the S.

Teng-chou T'ou (37˚50'N., 120˚44'E.) is a reef-fringed, steep-sided rocky headland having close E and W the sheltered small craft berthing facilities for Penglai, a small community about 1 mile to the S.

Vessels with local knowledge can anchor, in depths of 5.5 to 11m, off the camber on the E side of Penglai Tou, but N winds create a heavy breaking sea which renders the anchorage unsafe.

The coastline between Tengchou T'ou and Chenshan Jiao, a point about 96 miles ESE, is very irregular and much indented by several bights, inlets and lagoons and by numerous small bays and coves. Inland, the terrain is low and consists of a well-cultivated, level to rolling coastal plain which, extending inland as far as 10 miles, is interrupted throughout by barren foothills fronting, on the one hand, the mountain ranges of the interior, and, on the other, trending seaward to form a number of low-lying, reef-fringed rocky headlands. Interior mountain range peaks appear as islands from the NW. The offshore area is largely shoal and clear of dangers, save for rocks and islets lying off headlands.

Bo Hai

4.20 Bo Hai (Gulf of Chihli) (38˚30'N., 120˚00'E.), the larger constituent part of the extensive inland sea opening out to the W and N of Bo Hai Haixia, is an expansive body of water lying, by definition, between Ta-ch'ing Ho, and to the S of a line of Laotieshanxi Jiao, the NNE limit of Bo Hai Haixia. Depths throughout are largely shoal and rarely exceed 27.4m. Nearshore water levels to the W are raised by S to SE winds and lowered by N winds.

The major river Huang Ho empties into the SW side of Bo Hai. The commercially important river Hai Ho empties into the NW side.

Both mobile drilling and permanent production platforms have been reported in the SW part of Bo Hai, the positions of which may be seen on the chart. In some instances the platforms have been removed and wellheads marked by a light; others are not marked. Vessels are prohibited from approaching within 500m of the drilling rigs.

Bo Hai Haixia

4.21 Bo Hai Haixia (Po Hai Hai-hsia) (38˚24'N., 121˚00'E.) is the narrowed body of water lying between Laotieshanxi Jiao, to the NNE and Teng-chou T'ou, about 57 miles to the SSW. The many scattered islands and islets of Miaodao

Qundao encumber the strait and confine transit to a series of clear, deep water and largely E-W channels.

Laotieshan Shuidao (38˚30'N., 121˚00'E.), between the N end of Miaodao Qundao and the mainland 22 miles NE, is the principal channel through Bohai Haixia. The channel is deep. Changshan Shuidao is the principal channel through Miaodao Qundao. An obstruction lies 11 miles S of Laotieshan Xijiao Light.

There are wrecks lying approximately 20 miles and 30 miles W of the light and 14 miles SSW of the light; the positions of these wrecks may be seen on the chart.

Regulations.—Foreign vessels may use only the following three channels:

1. Laotieshan Shuidao N of Miaodao Qundao.
2. Changshang Shuidao through Miaodao Qundao.
3. Dengzhou Shuidao, S of Miaodao Qundao, for vessels of less than 200 tons only.

A Radio Reporting System is in operation in Changshan Suido. All vessels transiting the channel must navigate within the fairway and may only enter Changshan Suido at its E or W entrance.

The Northern Changshan Radar Station maintains a continuous listening watch on VHF channel 16. Vessels must maintain a continuous listening watch on VHF channel 16.

Vessels must report the following information to the Northern Changshan Radar Station, 15 minutes before entering Changshan Suido on VHF channel 16:

1. Vessel name and call sign.
2. Nationality and port of registry.
3. Owner's name.
4. Draft and loa.
5. Last port of call and next port of call.
6. Course and speed.
7. Position.
8. When towing—length of tow and what is being towed.

The Harbor Superintendent at Dalian should be informed of the intention to use Laotieshanxi Jiao at least 8 hours before the ETA at the mid-point of the channel, or immediately on leaving port if the steaming time is less than 8 hours. Voyage and vessel particulars should also be reported. If there is an appreciable change in ETA this should be reported to the Harbor Superintendent as soon as possible.

The following areas, indicated on the chart, are closed to foreign shipping:

1. An area with a radius of 8 miles, centered on Beihuangchung Dao Light,
2. An area with a radius of 10 miles, centered on Laotieshanxi Jiao Light, and
3. The area W of a line drawn N from Yu Yan (38˚34'N., 121˚38'E.) to the coast, and N of a line drawn from Yu Yan tangentially to Area 1.

Caution.—Anchoring and fishing are prohibited in the E and W approaches to Denzhou Shuidao, Bo Hai Haixia, and Changshan Shuidao.

4.22 Miaodao Qundao (Miao-tao Ch'u-tao) (38˚10'N., 120˚45'E.) is an island group which, consisting of numerous steep-sided hilly islands, many lesser islands and islets and a scattering of isolated above and below-water dangers, encumbers the S part of Bo Hai Haixia for a distance of about 35 miles between Teng-chou T'ou and Beichenghuang Dao, the N islet of the group.

Several deep-water channels separate the islands into a N, middle, and S sub-group.

Tuoji Dao (T'o-chi Tao) (38˚10'N., 120˚45'E.), the channel between the N and middle sub-groups, is deep and clear throughout save for Bei Jiao, a dangerous mid-channel rock with a depth of 1.9m, lying about 2.8 miles NE of the N extremity of Tuoji Dao, the largest island within the middle sub-group. There is usually a tide rip over Bei Jiao when the sea is smooth, but at slack water or in any sea its presence is not apparent. Tidal currents in this channel attain a maximum E rate of 2.25 knots and a maximum W rate of 2.75 knots.

Passage through the channel is not recommended. Vessels seeking shelter from N and NW winds anchor, in 7.6 to 12.2m, in a position close off the steep-sided S side of Tuoji Dao. Anchoring and fishing is prohibited in an area W of the island group as indicated on the chart.

Houji Dao (Hou-chi Tao) (38˚02'N., 120˚40'E.), the channel between the middle and S sub-groups, is deep and clear throughout and is recommended as the best passage through Miaodao Qundao. **Dengzhou Shuidao** (37˚52'N., 120˚45'E.), the channel between the S sub-group and the mainland, is deep and clear within the fairway.

Beichangshan Dao (37˚57'N., 120˚44'E.), the largest and S island of Miaodao Qundao, consists of two hilly well-cultivated islands which, joined by a low, single isthmus, is steep-to in the E and fronted to the W by shoal water and numerous hilly islands, islets and sunken dangers.

A signal station stands on the N extremity of Beichangshan Dao, the N island of Ch'ang-shan Tao, and it can challenge vessels transiting Changshan Shuidao.

Bo Hai Haixia Yantai to Chengshan Jiao

4.23 Yantai (Yen-t'ai) (37˚33'N., 121˚27'E.) (World Port Index No. 60160), about 63 miles W of Chenshan Jiao, is a well-populated community and is one of China's largest fishing bases.

Ice.—Ice can be experienced from mid-January to mid-February and normally does not hinder navigation.

Tides—Currents.—At the SE entrance to the inner harbor the flood current sets W at 0.5 knot while the ebb current sets E at 0.25 knot.

Depths—Limitations.—There is a total berthing frontage of 1,500m, providing 12 berths on the W breakwater and its extension, N Pier, for vessels of 3,000 to 10,000 tons. There are also two berths on the S shore.

Aspect.—Yantai comprises a large outer harbor with an artificial inner harbor in its SE part. The outer harbor is partly sheltered from E winds by off-lying islands, but gives little protection from N gales. It has depths of 4 to 13m. The inner harbor is protected by breakwaters.

Pilotage.—.Pilotage is compulsory and is available 24 hours. Pilots board, as follows

1. All vessels—Pilotage/Quarantine Anchorage No. 2.
2. Vessels less than 500 grt—Pilotage/Quarantine Anchorage No. 1.

Table of Contents

Regulations.—A VTS is in service to help monitor and control traffic. Vessels must contact the pilot station 4 hours in advance, stating:

1. Vessel name.
2. Nationality.
3. Last port of call.
4. Draft and loa.
5. Type and quantity of cargo.
6. ETA.

The following activities require a pilot on board:

1. Shifting between wharves, anchorages, or loading and discharge stations.
2. Shifting within an anchorage.
3. Moving the full length of a vessel alongside a wharf.

Entrance channels may be used when entering or leaving the harbor, as follows:

1. North Channel—all vessels.
2. South Channel—vessels less than 3,000 grt with drafts of 7m or less.

Listening watches must be maintained, as follows:

1. Navigating, berthing, or carrying out operations within the port—VHF channel 6
2. When at anchor—VHF channel 16.
3. Wind speed greater than force 7—VHF channel 16.

The signal station must be contacted on VHF channel 9, as follows:

1. When entering or leaving East Inner Harbor or West Inner Harbor.
2. When berthing or unberthing at the special purpose wharves.
3. When shifting berths within the port.

The following information must be sent to the Yantai harbor office on VHF channel 9 when anchoring or leaving an anchorage:

1. Vessel name.
2. Position.
3. Time of anchoring or weighing anchor.
4. Last port of call or next port of call.
5. Any additional relevant information.

Inbound tankers can obtain a pilot in an area centered about 4.8 miles NNW of **Zhifudong Jiao** (37˚36'N., 121˚20'E.).

Regulations.—Deep draft vessels enter the outer harbor through **Bei Shuidao** (37˚35'N., 121˚27'E.). Foreign vessels enter the inner harbor through the entrance S of the E breakwater.

Signals.—A signal station on **Yantai Shan** (37˚33'N., 121˚24'E.) directs ships entering and leaving the port.

Vessels wishing to enter the port should either hoist their call sign together with International Code Flag K or call the signal station by light or on VHF. Permission to enter and proceed to the indicated berth number is shown, as follows:

1. Day—Black conical shape, apex upwards, over a numeral pennant.
2. Night—All-round violet light, and number flashed in Morse Code or on VHF.

Anchorage.—The pilotage-quarantine anchorage, best seen on the chart, has depths of 7 to 15m, mud and sand. The holding ground is good throughout the harbor and it is unusual for vessels to drag.

Quarantine Anchorage No. 2 lies 5 miles NE of the outer harbor and the tanker loading and unloading anchorages lie 2.5 miles NW of Xiaoshanzi.

Yangma Dao (37˚28'N., 121˚37'E.), an island 4 miles long and connected SE to the mainland by extensive drying flats, lies 15 miles W of Chensan Jiao. A ridge of hills, rising to 107m at its SW end, runs the length of the island.

Yuanyao Zui (37˚34.0'N., 122˚03.5'E.) is the extremity of a tongue of land that forms the W side of P'u T'ao-T'an.

4.24 **Weihai** (37˚30'N., 122˚06'E.) (World Port Index No. 60150), about 28 miles W of Chenshan Jiao, is a well-populated community located on the shores of Wei-hai Mao-ti (Narcissus Bay), a small shoal cove in the NW part of Weihai Gang. Weihai Gang is a largely shoal water bay sheltered inland by three rings of high-rising, barren hills. The bay is entered between **Zhaobei Zui** (Chao-pei Tsui) (37˚28'N., 122˚14'E.), located SE and marked by a light, and Pei-shan Tsui, a point about 5.5 miles NW of Zhaobei Zui. The bay is sheltered by Liugong Dao, a steep-to islet, which divides access to the bay into a N and S entrance. A light is situated on the E point. Anchorage is prohibited in the S entrance.

There are two wharves providing five berths; two berths are for 5,000 ton vessels, with the remaining berths for vessels of 1,000 tons, 500 tons, and 300 tons respectively.

Pilotage.—Pilotage is compulsory for entering, leaving, or shifting berths within the port. The pilot boards in the pilotage-quarantine anchorage.

Anchorage.—A quarantine anchorage, with a depth of about 20m, mud, exists 1 mile NE of the N extremity of Liugong Dao. Anchoring and fishing are prohibited in an area extending NW from the W end of Liugong Dao towards the mainland. Small vessels can anchor in Wei-hai Mao-ti, in depths of 3.7 to 5.5m.

Directions.—To approach the N entrance steer to pass midway between Pei Chiao, the N extremity of Liugong Dao and the chain of islets and rocks extending SW from Yashi Dao. Then pass 0.2 mile W of Huang Tao, which is connected by a causeway to Liugong Dao. Continue on a S course and when Ri Dao bears 124˚ and is in line with an old fort close W of Zhaobei Zui, steer for it to enter the anchorage. Deep draft vessels must always use the N entrance.

Caution.—In addition to the charted prohibited areas, navigation and anchoring is prohibited within 500m of the coastline of Liugong Dao and within 500m of the mainland between Hei Dao and Weihai.

There are many seaweed cultivation areas along the coast.

4.25 To approach Weihai Gang using the S entrance, **Ri Dao** (37˚28.7'N., 122˚11.8'E.) can be passed N or S. Using the N channel, pass midway between Ri Dao and Dahong. When clear of Ri Dao alter course as necessary to avoid the shoals extending S from Luigong Dao. Using the S channel, give the rocks extending S of Ri Dao a berth of 0.25 mile. Within the bay there is a fairway leading to the wharf area marked by buoys in accordance with the IALA Maritime Buoyage System (Region A).

Caution.—On exceptional occasions during winter, the sea level in the harbor may fall as much as 1.7m below chart datum. This usually occurs after strong NW or N winds. It is prohibited for merchant vessels to navigate through the S entrance.

Zhaobei Zui (37˚27.7'N., 122˚14.3'E.) is a bluff point which exhibits a light. The coast in the vicinity is cliffy and rugged.

Jiming Dao (Chiming Tao), lying about 11 miles E of Zhaobei Zui, is a flat-topped island, 71m high, and fringed with reefs. Depths in the passage inshore of the island are irregular. A light is situated from a white round concrete tower on Jiming Dao.

Caution.—A prohibited anchorage area, with a radius of 1.1 miles, lies centered on a point about 5 miles NW of Jiming Dao.

4.26 Ma-lan Wan (37˚25'N., 122˚39'E.), about 2.5 miles NW of Chengsan Jiao, is a small, shoalwater cove sheltered by low-lying hills from all but N and NW winds, which send in a heavy swell. Hsiao-ch'eng Shan (Hai-lu Dao), a precipitous, flat-topped islet lying close N of the cove, is separated from the mainland by a channel in which rips and strong tidal currents make an evening passage unsafe. Hsiao-ch'eng Shan, showing a light to the NW, has submerged and drying rocks extending 0.3 mile NE and S of it. Small vessels obtain anchorage in the middle of Ma-lan Wan, during S winds, in depths of 9.1 to 10.4m, sticky mud.

Chengshan Jiao (37˚24'N., 122˚42'E.), a rugged, precipitous point lying at the E extremity of the Shandong Bandao peninsula, is steep-to and culminates close W in a sharp conical hill with a prominent temple on its S slope.

A light is situated and a racon transmits on Chenshan Jiao. Fog is frequent. Close off the point, tidal rips and eddies are strong. Tidal currents, influenced by the wind, attain a rate of 2.5 knots.

Regulations.—A Traffic Separation Scheme has been established off Chengshan Jiao with a precautionary area, having a radius of 5 miles, centered at 37˚34.5'N, 122˚42.9'E at the N entrance. An Inshore Traffic Zone has been established between the TSS and the adjacent coast. The scheme is not IMO-adopted; however, the Chinese authorities recommend application of Rule 10 of the 72 COLREGS.

A Vessel Traffic System (VTS) has been established off Chengshan Jiao, encompassing a circle with a radius of 24 miles, centered on Chengshan Jiao Light, including the Traffic Separation Scheme.

Vessels must maintain a continuous listening watch on VHF channel 16 when operating within the VTS area. Vessels must report the following information to Chengshan Jiao VTS Center, on VHF channel 16, before entering the VTS area:

1. Vessel name and call sign.
2. Nationality and port of registry.
3. Owner's name.
4. Draft, grt, and loa.
5. Last port of call and next port of call.
6. Course and speed.
7. Position.
8. When towing—state length of tow and what is being towed.
9. State if using the TSS.
10. State if using the Rongcheng Wan Anchorage, including the length of stay.
11. On entering the Rongcheng Wan Anchorage, vessels must report the following information:
    a. Vessel name.
    b. Time and position of anchoring.
    c. Time of departure and next port of call.

Vessels must report the vessel name and position, as follows:

1. When entering the VTS area, upon crossing a circle 20 miles in radius centered on Chengshan Jiao Light.
2. When leaving the VTS area.

A mandatory Ship Reporting System has been established for all fishing vessels 24m and above, cargo vessels 300 grt and above, and passenger vessels, in waters within a 24 mile radius of the VTS center (37˚23.6'N., 122˚42.2'E.). Vessels are required to report the following information to Chengshan Jiao VTS Center in the format below:

Designator	Meaning
A	Name of ship, call sign, and IMO number (if applicable)
C or D	Position (latitude and longitude or relation to a landmark)
E	Course
F	Speed
G	Port of departure
I	Port of destination (optional)
Q	Defects and limitation (vessels towing are to report length of tow and name of object in tow)
U	Overall length and gross tonnage

Participating vessels are to report the above information when entering the ship reporting area. Reports are not required when departing the area.

When departing a port located in the reporting area, participating vessels shall report their name, position, departure time, and port of destination.

Upon arriving at a port within the reporting area participating vessels shall report their name, position, and arrival time.

If a traffic incident or a pollution incident occurs within the reporting area the vessel or vessels shall immediately report the type, time of occurance, location of incident, extent of damage or pollution, and if assistance is needed.